Rec^d March 27

Mercersburg, March 18th 1851.

Dear Sir,

Your favor of Feb. 15th reached me and I am glad to hear that there is a fair prospect of receiving Mr. Mead's parcel and also that you intend making some additions to it. I have long desired plants from the west & South-west and will cheerfully make any return in my power for those it may please you to send. I have already given a good deal of time to our oaks, hickories, and willows, but expect to study them more closely during the approaching summer. Last season there was a total failure in the acorn crop, or I would be able now to furnish a complete suite of our Quercii. The black-oak, Q. tinctoria is common in our woods and quite distinct from Q. tinctoria. They cannot be confounded. This is not the case with Q. Prinus, montana, & castanea, which I am more & more disposed to regard as

varieties of one species. The genus is a difficult one and much room must be allowed for variation. The same may be said of the genera, Salix and Panax. — I am sorry to learn that your Dipteracanthus must be reduced to D. strepens but it is certainly a very singular variety. At first sight I took it for D. strepens, and only discovered the small flowers by their falling. — Of the Cuscutae I have only found one each of the Alleghany Mountains, C. Gronovii, Willd of the Asclepiadaceae we have Asclepias Cornuti, Decaisne, A. phytolaccoides, Pursh, A. purpurascens, L., A. variegata, L., A. quadrifolia, Jacq., A. obtusifolia, Mx., A. incarnata, L., A. tuberosa, L., and A. verticillata, L. and Gonolobus hirsutus, Mx. I have in my herbarium from Florida, Asclepias pauperula, Mx., A. debilis, Mx. A. connivens, Baldw., A. amplexicaulis, Mx. A. angustifolia, Ell., & A. cinerea, Walt., & A. rubra, L.

also Amsonia latifolia, Pursh, & A. angustifolia, Mx. & Acerates viridiflora, Ell. —— Of Euphorbiaceæ — E. Darlingtonii, Gr., Heloscopia, L., Peplus, L., corollata, L. Ipecacuanhæ, L., Lathyris L., polygonifolia, L., maculata, L. & hypericifolia, L. & a hairy one of which I am in doubt. I detected it in Georgia and last summer in this neighborhood. I have besides several other southern genera & species of this family. — Any of these, which I can spare, are at your service. —

By the close of the coming season I hope to be able to send you a parcel. Till then I remain yrs very truly

Thos. C. Porter.

Rec'd Nov 13
Ans Feb 13 1851

Mercersburg, Franklin County, Penn.

Dr. E. Engelmann,

Dear Sir,

I learn from Dr. Mead of Lucock Ill., that during the last year he has left in your hands a parcel of plants directed to me. – in addition to another of an older date. I have been patiently waiting thus long for some private means of obtaining them, but find it useless. You would greatly oblige me by consigning them to the Express of Adams & Co. directed – "Prof. T. C. Porter, care of Hon. J. C. Bucher, Harrisburg, Penn." For this kindness, if I can make you any return in a botanical way, I will do so with pleasure. My collections

have been made principally from Middle Pennsylvania, and Upper Georgia. Many a number of other western plants, which have found their way into this region, I discovered the curious Dipter a cantha micranthes, Engl. & Gr., and would like to know, where it was first published. The peculiarity of the flowers leads me to think it the same, although it does not fully accord, in other respects, with a specimen of D. micranthus, in the herbarium of Mr. E. Durand of Philadelphia, with whom I left one of mine. For your [illegible] answer to this inquiry, I shall be thankfully received.

I am dear Sir

Very respectfully yours,

Thos. C. Porter.

Dr Geo. Engelmann.

Rec^d Nov 20th
Ans Dec 15th

Mercersburg, Franklin Co, Penn.
Nov. 11 - 1851

My dear Sir,

Your parcel of plants, together with those of Dr. Mead, sent through Prof. Baird, reached me in August last. I would have acknowledged their arrival at an earlier date, but our vacation intervened & caused a suspension of my botanical correspondence.

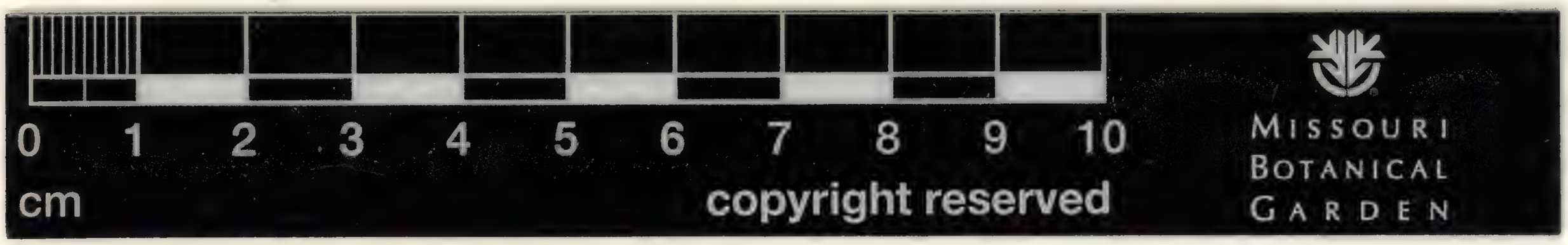
Accept my thanks for the fine specimens of Quercus from the neighborhood of St Louis. They present some very curious forms. The hybrids are especially interesting. I have never observed anything of the kind in our forests, at least, nothing so well marked, for probably the intermediate grades between Q. tinctoria, Bartr. & Q. coccinea, Wang. ~~may be~~ are the result of hybridization. In the same way too, perhaps, the boundary lines between Q. Prinus, L., Q. montana, Willd., & Q. Castanea, Willd. are broken down. They certainly seem to run very much into each other.

During the Fall just past I have made

large collections of the leaves & acorns of our oaks, but must till Spring to ~~complete~~ obtain the flowers of some. — If however you wish now what I have & will be kind enough to indicate any way of sending (for private opportunities rarely offer) I will put them up immediately, with a few other rare plants in my possession. — I lately received a large parcel of European plants, in return for a collection sent to him, from Prof. G. G. Bischoff of Heidelberg, who spoke of you as having formerly studied with him. I have been exchanging with him for several years.

Please let me hear from you soon. If I can aid you in any way I will cheerfully do so.

Yrs very truly Thos. C. Porter.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MISSOURI
BOTANICAL
GARDEN

Recd Octob 27
Ans Nov 24

Harrisburg, Oct. 19th 1852

My dear Sir,

I owe you an apology for my long delay both in sending the parcel of plants and in replying to your letter. The plants I did not like to send by Adams' Express, on account of the cost, and waited for a private opportunity, which came at last, but gave me so little time, that I was compelled to put them up in a great hurry. The parcel I entrusted to the care of the Rev. Leander Ker of Fort Leavenworth and you have doubtless received it some weeks ago. The Querci and specimens of Rudbeckia Porteri Gr. are for you; the others for Dr. Mead.

Your fine collection I have not yet been able to study closely and compare with my own, but will do so this winter and communicate to you the results of my observation. Q. tinctoria and Q. coccinea I think good species but of Q. montana, castanea & Prinus I am in great doubt. The last is quite obscure. In a letter of a recent date

our common friend, Professor Bischoff writes:
" Ich habe mich nun fest überzeugt, dass Qu.
tinctoria Bartr. eine von Qu. coccinea Wang.
wohl unterschiedene Art ist. Ein Haupt=
=merkmal glaube ich in den Knospen, besonders
am Ende der Zweige, gefunden zu haben:
Qu. tinctoria; gemmae terminales acutiusculae,
conicae, (plerumque majores) evidenter angulosae
totaeque tomento cinereo-cinnamomeo obductae.
Qu. coccinea: gemmae terminales obtusae, oblongae
vel ovales, vix angulosae; squamis obtusis, dorso
tomento canescente vestitis, margine glabris et
colore badio tinctis, hinc singulis multo magis
perspicuis." Of the truth of these characters
I ~~can~~ can now express no opinion

Touching the hybridization of our oaks I am
able to say nothing more. I have looked in vain
for a clear and undoubted case, during the
summer, Examples of the kind I am inclined
to think quite rare and confined to particular
localities and brought about under peculiar
circumstances. The probabilities in favor of their
occurrence are strong but in coming to a definite
conclusion we must always take into consideration
the allowed variation of a species from its type.
among herbaceous plants, like the Hieracia and
Viola, the matter can be easily tested, but not

among long-lived perennials of slow growth. The subject is one certainly worthy of investigation, and any facts bearing upon it that fall under my eye will be carefully noted.

Ever since I placed your parcel hurriedly in the hands of the Rev. Ker, at the close of our college session, I have been travelling among the Alleghenies of Central Pennsylvania, collecting chiefly Musci & Hepaticæ, to which I have devoted special attention during the present season. In a day or two I expect to return to Mercersburg, where I will be happy to hear from you at an early date.

Yours very truly

Thos. C. Porter.

Rec^d - Pottsville Sept 9
Arbor found the Fulton Nov 28

Lancaster, Sept 6. 1856

Dr G. Engelmann,

Dear Sir,

Yours of Aug 27th from Albany reached me, & instead of counting it a trouble, it would give me great pleasure to lend you any assistance in the study of our Sagittaria & Spargania. They certainly present great difficulties. In Sagittaria the variations are so wide that nothing but the most extensive range of observation & comparison would satisfy in regard to the constancy of certain characters. You have devoted years to the investigation, & I am glad to hear that at last light begins to dawn. Nuttall's S. pusilla is the only one, besides the common form with its manifold diversity, which I have observed in Pennsylvania. I have thought it might be entitled to rank as a distinct

species. But I have not given them sufficient attention to be able to speak with assurance or to give you any help, & will therefore wait with interest for the results of your labors in the New Edition of Dr. Gray's Manual. — In this region we have but one species of Sparganium. It is widely diffused & seems to vary but little. I have felt however that there is great discrepancy among authors in regard to our N. Am. species. I made a trip to our swamps & send enclosed measurements, along with a few nuts. — Also, another narrower form from a Mountain Swamp (Bear Meadows, Centre Co.) in the centre of the State, where the vegetation is all northern. I regret to be able to do so little for you. If more time were allowed, I would take special pains to note any thing which might be of service to you. The European simplex & natans I have, but have never seen the so-called American forms. — Should you desire specimens or further measurements please let me know & I will attend to it immediately.

Please present my kindest regards to Dr. Gray. I intend writing to him in a few days – & may have a word or two to say about our oaks. Your St. Louis forms, sent me at Mercersburg, a few years ago have puzzled me no little.

I write now in great haste

Yrs very truly

Thos. C. Porter.

Rec'd Jan. 3d
Ans — 4th

Lancaster, Pa.
Jan. 1, 1865.

Dr. Geo. Engelmann,
St. Louis, Mo.,

Dear Sir,

I am really ashamed that I have suffered your kind favor of Oct. 6 to lie so long unanswered, but since then it has been an extremely busy time with me. So many things outside of our favorite science have been crowded upon me, that moments of leisure are few. From all this, however, I have a prospect of release during the coming year. My hands will be untied & I expect to devote my whole energies to botany.

Your remarks on our Pines I have read with great interest & regret that I can give so little aid just now, but through a botanical friend who resides in the central part of the State in the midst of Pinus pungens, I will secure for you ripe seeds & specimens of the cones. Of P. australis I have nothing but leaves. P. mitis grows in this vicinity, & should you wish them, flowers & cones can be procured. I will make it a point during the summer to give close attention to our species, guided by your observations of Vitis.

In regard to our species, I am very much in the fog. They present so many varieties. The islands & banks of the Susquehanna abound in them & I have noticed a number of curious forms. Some I have collected, but next season will do all I can & report to you.

When Spring opens I will get you bulbs of Isoetes Engelmanni. I thank you for giving me the new locality on the Lehigh river. Mr. Durand has informed you, I suppose, that last summer we (i.e. our party) collected at Sault Ste. Marie an Isoetes, which Prof. Durieu pronounces the first genuine I. lacustris he has seen from North America. Unfortunately only 3 specimens were gathered.

I am glad that you have undertaken the formidable task of working up the Juncaceae & hope soon to be

favored with the sight of the results. I have nothing more to communicate than you have already in Dr. Gray's collection, but have encouraged my friends in Philadelphia to send on to you their stock of specimens.

I have lately seen in a herbarium a Linum, which I have always doubtfully considered a form of L. Virginianum growing in swamps, ~~but~~ labelled L. oppositifolium, Engelmann. It is abundant in our swamps – has the lower leaves generally opposite, the upper with setaceous tips & the branches of the panicle short & contracted. Have you published a description of it? & where?

On the banks of the Delaware below Philadelphia there grows a stout Scirpus, which rarely flowers. It occurs in the greatest profusion, but it is only of late that I have succeeded in obtaining mature fruit. It is not S. maritimus, L. & I entertain doubt as to the propriety of naming it S. fluviatilis. Could you send me a few ripe akenes of the latter? In all my western specimens they are immature.

A really new Scirpus, nearly allied to S. debilis but much smaller & quite distinct, has been discovered on the muddy, tide-washed margin of the Delaware near Philadelphia. I intend to publish it shortly & will send you a specimen.

With kind regards & the compliments of the season, I remain yrs. very truly

Thos. C. Porter

Rec'd Oct 5th
Ans Same Day

Lancaster, Penn.
Sept. 30, 1865.

Dr. Geo. Engelmann,
St. Louis, Mo.,

Dear Sir,

From my friend, Mr. Durand, I learned that you had addressed to me at Mercersburg the Proceedings of your Academy containing a paper from Dr. Parry on the Physiography of the Rocky Mtns. As it is now 12 years since I left Mercersburg to reside in Lancaster, I wrote to the postmaster of the former place, who kindly forwarded what you were pleased to send. Such a new & beautiful species of Nuphar as your N. polysepalum, is an acquisition to the flora of the U.S.

Mr. D. also tells me that you desire roots of our Lancaster Co. Isoetes Engelmanni (so called, although the description in Gray's Manual does not fit our plant, whose leaves are not "slender" nor "light yellowish green", but stout, irregularly terete, dark-green & shining with a glassy lustre). Inform me when & how you wish them sent, & I will make a journey, 9 miles distant, to the marsh & procure them. On a trip to the Lake Superior region, last summer, I collected at Sault Ste. Maria specimens of what Prof. Durieu pronounces undoubted I. lacustris, L. & the first as yet discovered in N. America – all that have hitherto passed under that name belonging chiefly to your I. riparia.

Another item of information communicated by Mr. Durand is that you are engaged in the study of the Pines & wished the male flowers of P. pungens, Mx. Had I known it early enough in the Spring, I could have easily obtained them in good condition. It is quite frequent & abundant on the eastern ridges of the Alleghanies in Blair, Huntingdon, Mifflin, Centre & Union Counties, Penn. I first met with it 4 years ago. The following note from a letter to Dr. Gray in 1862 may be of interest. – "During

Th. C. Porter

memoranda 1862: During a late visit to Huntingdon Co., I met with a grove of this pine on a hill-top. The highest tree did not exceed 30 ft. It is stouter in all its parts than P. inops with which it grew. The branches are very rough with squarrose scales after the leaves have fallen. The leaves are occasionally in 3s., especially on the young shoots (& 3 in. in length). It is profusely cone-bearing & begins to bear when very young. I have seen on the same branch 5 whorls of cones, the product of as many successive years, & 4 mature cones, & sometimes 6 or 7, in a whorl. The ground underneath is thickly strewn with the remains of old ones. The wood is very compact, & I am told by colliers, makes excellent charcoal."

Pinus pungens

Pinus mitis is abundant in N. J., but rare with us. I have found it in but two localities in Pa., & both in Lancaster Co.

It may gratify you to know that your Cuscuta chlorocarpa is quite frequent on the banks & islands of the Susquehanna. Two years ago, I discovered also, in the same place, your C. tenuiflora on Salix nigra. Co. compacta, Gurs. is common on both sides of the Delaware above & below Philadelphia.

Yours very truly,

Thos. C. Porter,
Lancaster, Penn.

Sept 30' 1865

Note on Pinus pungens, Pennsylvania

Lancaster, Penn.
Jan. 4, 1866

Dr. Geo. Engelmann,
St. Louis, Mo.,

Dear Sir,

In looking over my cones of Pinus pungens I found an abundance of ripe seeds, some of which you will discover within. I hope they may reach you without injury to the delicate wings. The cone from which they are taken was collected by me on Tussey's Mtn., Huntingdon Co., Penn.

Yrs. very Truly
Thos. C. Porter

Rec'd Jan 13

Lancaster, Pa.,
Jan. 9, 1866

Dr. Geo. Engelmann,
St. Louis, Mo.,
Dear Sir,

Your favor of Jan. 4th. reached me to-day. Thanks for the akenes of Scirpus fluviatilis! They establish the fact that our large Delaware plant is the same, & not new. I enclosed a fruiting head, & also a specimen of our little Scirpus allied to S. debilis. I think it has distinctive characters enough for a new species - & would like to have your opinion. The following description contains the chief points of difference, the most important underscored:

Scirpus inundatus, Sp. nov. – Culms tufted, slender, 3-9 in.; spikes ovate, single, sometimes 2; involucre nearly as long as the culm; achenia broadly obovate, compressed, plano-convex, mostly light brown & dull, smooth, very finely striate under a lens, not dotted; bristles 1-3, or none, flat, thin, membranaceous, often adherent to the achenium, entirely destitute of retrorse barbs. Whole plant dark green.

Muddy, tide-washed shores of the Delaware, above & below Philadelphia. Rather frequent.

In regard to the waifs from the South & West found on the ballast-heaps below the Navy Yard & also on the New Jersey side of the river, I am now engaged in preparing a list & a curious one it will be. I will name a few of the species:

Senebiera didyma
" Coronopus
Sagina Elliottii
Malvastrum carpinifolium, Gr.
Sida stipulata
Trifolium Carolinianum
Glottidium Floridanum
Sesbania macrocarpa

Viguiera glabra
Carpha obtusifolia
Potentilla argentea
" Anserina
Armania latifolia
Gaura simulata ?
Juncus repens
" decurvus
" leptocarpus
Diodia Virginica
Polypremum procumbens
Leptocaulis divaricata
Heterotheca Pedora
Parthenium Hysterophorus
Helenium microcephalum
Artemisia biennis
Pyrrhopappus Carolinianus
Plantago heterophylla
Cenchrus multifida

Heliotropium ~~[illegible]~~
" ~~[illegible]~~
Heliophytum Indicum
Nama Jamaicensis
Batatas littoralis
Petunia parviflora
Euphorbia hermienoides
Croton glandulosum
Phyllanthus polygonoides
Cyperus Baldwinii
" rotundus L. vers Hydra
" compressus
Fimbristylis cuspidata
Sporobolus Indicus
Eustachys ——
Leptochloa Dactylon
Dactyloctenium Aegyptiacum
Paspalum distichum
Collinsia parviflora
Ipomoea tamnifolia

I enclose a specimen of our Lancaster Co. Linum. It is quite abundant in our swamps, & is probably your Arkansas plant.

Next summer, I will take great pleasure in doing all I can to aid you in the investigation of Vitis, Pinus & Juncus - I will collect largely. J. Balticus is very abundant in a bog near this city - a singular station so far south & so remote from the coast & the Great Lakes. It is, however, associated with Lobelia Kalmii & Rhynchospora capillacea.

Of Nabalus we have two in the State - N. asperum & N. Kalmianus, which I have found in our neighborhood on the banks of the Susquehanna. These two I will look after.

In haste, but very truly, yours.

Thos. C. Porter

Rec'd March 23?
Ans Aug 23?

Lancaster, Pa.,
March 20, 1866

Dr. Geo. Engelmann,
St. Louis, Mo.,

Dear Sir,

Yr. favor of the 13th. reached me yesterday. To aid you in publishing a Herb. Junceum boreali-Am. normale I am willing to do all that lies in my power & can collect hereabouts the following species:

J. effusus - the common form, & also a very large one with an enormous panicle.

J. Balticus - Any number of specimens. It covers half an acre in a large swamp about 1½ miles from this city, displacing with its matted, running rootstocks everything else. It occurs also in several other localities in the same range, but why it should be found so far South & so far inland is a mystery.

J. scirpoides - not near & rather scarce.

J. paradoxus

J. fraternus

J. debilis - This species is rare in this State. I have only found it in one swamp in Huntingdon Co. & in two in Lancaster Co. & then but a few scattered individuals. The reason why I put J. fraternus with it was, because guided by Gray's Manual. I

did not know where else to place it, yet I was far from being satisfied, & am glad the matter is settled. My last opinion was that room should have to be made for a new species, when the old name of J. pretaeuus turned up.

J. Canadensis – the form to which you allude, which grows in the same bog with J. Balticus.

J. nodosus – abundant in the same bog.

J. marginatus –

J. tenuis – very many forms.

J. bufonius – the ordinary form.

This list comprises all that grow with us, as far as my knowledge extends.

Do you intend to include the Luzulae? Besides L. campestris we have L. pilosa.

I am highly gratified that you have discovered a new Juncus in Mr. E.E. Smith's collection & that you are about to give his name to it. The honor is well deserved. He is a gentleman of great wealth & influence in Phila., a bachelor, ab. 45, & President of the Reading Railroad Co., whose concerns he manages with extraordinary ability. With all the onerous duties of his position he finds leisure to devote to the study of plants & I need not tell you how thorough & accurate he is in his investigations. His aim has been to collect all the phanogamous & filicoid plants embraced within a circle ~~of~~ whose radius is 15 miles from the Old State House in Phila. & his herbarium is a model for the excellence of its specimens & its neatness. He is also a warm friend & patron of men of science, especially botanists. Last summer in our trip to the Southern

shore of L. Superior & Isle Royale he was the leader of the party – the other members being Aubrey H. Smith, Esq., Dr. Leidy & myself. The collections were placed in my hands & at the suggestion of Dr. Gray I have united with Dr. Robbins of Uxbridge, Mass., who resided 4 years, fr. 1859 – 1863, on Keweenaw Point, & we expect to publish shortly a joint Catalogue. Both of us collected a new species of Avena allied to A. striata, but clearly distinct, to which we have given the name of A. Smithii in honor of our friend.

In regard to the Southern waifs found near the Navy Yard, Phila., I have placed all my notes & lists in the hands of Mr. Aubrey H. Smith, & we expect him to publish them soon in the Proceedings of the Academy of Nat. Sciences.

The little Scirpus I sent you is entirely destitute of bristles. What I mistook for them, on a hasty examination, are the remains of the filaments. I am persuaded that it deserves to rank as a new species.

At the proper season, I will take pains to obtain for you good flowering specimens of Pinus pungens & will also look sharply for the species of Nabbas to which you have given me the clue.

With sincere regard,

Yrs. very truly,

Thos. C. Porter

Recd Sept 6
Ans Sept 15

Lancaster, Penn.
Sept. 3, 1866

Dr. Geo. Engelmann,
St. Louis, Mo.,

Dear Sir,

Your favor of Aug. 23d. came, a few days ago, to remind me that I had not yet acknowledged the receipt of the 1st part of your admirable paper on the Juncii in the Transactions of the St. Louis Academy. Though silent, I have done what I could for the Herb. normale & propose to send on my contribution with that of my friend Mr. Chas. E. Smith, about the 1st. of Oct. The species, obtained in numbers, are – J. Balticus (coming into flower), J. tenuis secundus (too ripe) & other forms, J. marginatus (overripe), J. pallescens debilis? (rather young) J. scirpoides, J. nodosus genuinus, J. Canadensis brevicaudatus (coarctatus & patulus) & longicaudatus, & last, but not least, J. Smithii, no longer "mythii", in fruit. No doubt Mr. Smith has informed you of our visit to Broad Mtn. on the 22d. of June & the vain search then made for it. In the young state it is so much like the low forms of

effusus with which it grows that we all overlooked it, misled by the expectation of seeing a very long black sheath on the culm. Our last visit on the 24th. of Aug. was more successful. We found it in the original swamps in great abundance & also in another locality 40 miles S.W. across several mountains, so that it must be diffused over the whole region east of the Susquehanna & north of the Blue mountain. It seems more allied to filiformis than setaceous, being aphyllous. The capsule is globose & tapers abruptly into a short point. The panicle is small with singularly stiff divaricate branches. The rhizoma is creeping like that of J. Balticus which it closely resembles in its mode of growth.

I have for you a giant specimen of J. effusus? over 4 ft. high, with a sheathe more than 15 in. long & a very large, drooping decompound panicle — also, a stunt Juncus from Ft. Belknap, Texas.

The gentleman on whom I relied for the collection of Pinus pungens has disappointed me. I have some cones which I can spare you, but how shall I send them? The station of the tree is 200 miles W. of Lancaster.

I am delighted to hear that the Isoetes of Smithville Swamp is likely to prove a new species. On receiving your letter, I fixed a day for visiting the Swamp (9 miles distant) but a heavy rain spoiled the plan. If possible I will go toward the close of the week, but may be disappointed. The preparations required for a change of residence will keep me very busy for a month to come. Please take note that after the 1st. of October, my address will be Easton, Penn. I have accepted a call to the Chair of Botany & Zoology in the Scientific School of Lafayette College, an institution which has lately received a very liberal endowment from several gentlemen of wealth.

To return to the Isoetes. In the fresh specimens, I have observed the marked carina or ridge on the leaves, which though emersed (it grows in soft mud) are sometimes 15 in. long, irregularly terete & tapering from the base, dark green & possessed of a vitreous lustre like the stems of Pilea pumila. It is no doubt the same plant as the Isoetes lacustris? of Darlington's Flora Cestrica. I have had no opportunity

of comparing it with living specimens of other species, the only one beside which I have collected being 3 dwarf specimens at Sault Ste. Marie, which Durieu has pronounced the only genuine *J. lacustris*, which he has seen from N. America.

Hoping that you may pass through the terrible cholera epidemic without injury, I remain,

Yours very truly,

Thos. C. Porter

T. C. Porter

Rec'd Sept 29
Ans Octob 7

Lancaster, Pa.,
Sept. 26, 1866.

My dear Sir,

A few days ago I received your note & although in the midst of the thousand perplexing troubles connected with the selling of property & removal of my family & household goods to a new home, I will go down on Tuesday next (if it does not rain) to that Smithville Swamp to look after the Isoetes & will get the corm-like bases, for the fronds I suppose have nearly, if not altogether disappeared by this time. The date of my first discovery of it is June 18, 1862 & I have found it in three spots in the same range, 2 or 3 miles apart. As to Darlington's plant, I have not seen it, but suppose it to be the same from his description. Fl. Lestr. 1st. ed.

Last Friday I left my bundle of Juncii in Philadelphia to be sent on with those of Mr. Chas. E. Smith. They are not what I could wish & would have made with a little more time at my disposal, but hope they may be of some service to you. On

the labels you will find the localities all given & the dates of collection.

At the request of Mr. Smith I visited some weeks ago the valley of the Susquehanna & Schuylkill R.R. to search for Juncus Smithii. & explored the locality indicated by him – between Cold Spring & Rattling Run – 5 miles through the rain – but saw no trace of it. In my bundle, however, you will find specimens from Rausch's Gap Station, 2½ miles east of Cold Spring, & I have no doubt it occurs at other points in the valley.

On Broad Mtn., it grows in a Sphagnus swamp, resting on Sandstone & gravel – in damp & water – & must be ~~partially~~ covered with water in winter & early spring. It is associated with J. effusus & J. acuminatus – but unlike effusus does not grow in tussocks. The matted rootstocks cross & recross each other much in the manner of J. Balticus. & the culms rise in rows side by side like the reeds of a Pan's pipe.

In regard to Isoetes lacustris, pronounced by Durieu the only genuine specimen he has seen fr. N. Am. – we found it, July 27, 1865, at Sault Ste. Marie, Mich. at the head of the Ship-canal, submersed, single growing in the shallow margin of the river, in mud. a few inches under the water – no other species – We collected only 3 specimens. I I sent to Durieu & now enclose another & best one to you. It was first observed by Dr. Leidy.

When I have a little more leisure I will answer your inquiries more fully.

Please note that from Oct 1. my address will be Easton, Pa. In haste but very truly yrs.

Thos. C. Porter

Ans - Oct 16
Ans Dec 14

Easton, Pa.,
Oct. 11, 1866

Dr. Geo. Engelmann
St. Louis, Mo.,

Dear Sir,

Before leaving Lancaster last week I took a run down to the Swamp at Smithville to look after Isoetes valida. I collected about 20 specimens & directed a friend of mine to forward to you by mail 3 or 4 living ones & brought the remainder on with me to dry. They are ready now & I will shortly send them to you. The plant is much smaller than I had expected to find it. It may be that the larger and older ones have all been taken, or else that it is more vigorous in the Spring. In all the specimens gathered, even the smallest, the double character of the rootstock is observable. It grows in soft mud half-immersed. The spores are

fully mature, but I have not examined them yet. My present position is such that I have no facilities for botanical study & will not until I get in my house & rooms at the College, which will be about the 1st. of January.

Mr. Chas. E. Smith promised to send on my collection of Juncii with his & you have probably received them by this time.

Yrs. very truly,

Thos. C. Porter,

Easton, Penn.

Rec'd Oct 19
Ans Dec 14

Easton, Pa.,
Oct. 15, 1866

Dr. Geo. Engelmann,

Dear Sir,

By mail I send you this day specimens of yr. Isoetes valida collected in the swamps near Smithville, Lancaster Co., Pa., Oct. 2, 1866.

Date of my first discovery, June 18, 1866. 1862

It grows in red, micaceous mud very soft - is only half immersed {never quite dry & never submerged.

The plants associated with it - Magnolia glauca Gaylussacia dumosa - Pogonia ophioglossoides Arethusa bulbosa - Sclenia triglomerata - Andropogon macrourus - Kalmia glauca - Aletris farinosa & beds of Sphagnum -

The "Juncus acuminatus" referred to by me was J. ac. of Mich., the J. pallescens of yr. Catalogue.

Mr. Smith had no need to resort to any feigned request from you, to send me up to the Mountains in quest of his need

Gunnar. I would have done it cheerfully for his own sake. There is no harm done, & the mishap was a consequence which no one c^d. foresee.

In regard to our Native Grapes, I regret that my time was so occupied during the month of September that I could not possibly visit the Susquehanna to obtain seeds of some curious forms of Labrusca which I have observed there. Next season I hope to have an opportunity to do so.

In haste, but very truly

Yours,

Thos. C. Porter

Recd Febr 8th
Ans same day

Easton, Pa.,
Feb. 4, 1867

Dr. Geo. Engelmann,
St. Louis, Mo.,

Dear Sir,

Might I ask of you the favor to name for me the enclosed Euphorbiae 1, 2, & 3? The one supposed to be E. exigua is one of the Ballast Grounds Plants at Philadelphia, & as we are anxious to see a Catalogue of them published as soon as possible, we would like to have yr. judgment in the case.

With sincere regard,
Yr. very Truly
Thos. C. Porter

Rec'd July 19'
Ans — 20

Easton, Penn.,
July 15, 1867

Dr. Geo. Engelmann,
St. Louis, Mo.,

Dear Sir,

I have not forgotten my promise in regard to the Isoetes of the Lehigh, but unfortunately the season, until a very recent date, has been so unpropitious that search after them would have been useless. The Easterly storms which in succession have prevailed since the opening of the Spring have kept the waters at such a height that the poor Isoetes have had little chance to grow & the Isoetes-hunters to find them. On Friday last Dr. Green & I made the attempt - & after a most careful & diligent exploration, going over every inch of ground in the localities indicated at the mouth of the Saucon & on the island at Bethlehem, came home <u>empty-handed</u>. But in a short time we will try it again. To-day I sent one of our young men, a most sagacious botanist, who has discovered many rare & good things, to

ransack the muddy borders of a large island, 3 miles up the Lehigh. The result I have not yet learned.

At my suggestion, Dr. Green has produced from his herbarium — gathered at Bethlehem by the late Mr. Wolle, an old Moravian botanist of that place & a friend of Von Schweinitz — a single specimen (label without date) of an Isoetes, which, from the size of the spores, I think must be I. macrospora. This specimen I send you, but, in case we do not succeed in finding more, I would like to have it returned for my Pennsylvania Collection. The other smaller specimen is probably I. riparia — from New Haven, Conn. D.C. Eaton.

During the present summer we have discovered several interesting northern plants in this neighborhood — Polemonium coeruleum — undoubtedly native — & Sedum Rhodiola, Ob. & Woodsia hyperborea, R.Br. — on cliffs along the Delaware — relics of the Glacial Period that have retained their hold in favorable localities, when the Arctic Flora retreated northward.

How is the "Herbarium Normale Junceorum" progressing? Will it be soon ready for distribution?

Have you received a copy of Mr. A. H. Smith's paper "On Colonies of Plants Observed near Philadelphia" – a list of the Navy Yard Waifs? If not, I will send you one.

With sincere regard,

Yr. very Truly,

Thos. C. Porter.

P.S. – I have detected Rosa canina, L. abundantly naturalized along roadsides & in copses for many miles around Easton.

Rec'd Oct 22
Ans Oct 13

Vitis

Easton, Pa. - Oct. 17, 1867

Dr. Geo. Engelmann,
St. Louis, Mo.,

Dear Sir,

A few days ago, I received yr. favor of the 9th. & the photograph enclosed, for which please accept my best thanks & my own in return. It is just what I wished & shall have a place in my botanical album beside that of Dr. Gray.

Search for Isoetes this year in the Lehigh has been altogether unsuccessful, on account of the high water. Dr. Green & I, however, made a trip to the mountain lakes of Carbon Co. & invited Canby to join us. On the gravelly margins of two of these lakes, which were circumnavigated in boats, we discovered, under water from 6 to 18 inches, what Canby & I, on superficial examination, supposed to be I. echinospora, var. Braunii. As agreed upon, Canby sent specimens to you & I learn from him that we were right in our conjecture. In a package placed in Mr. Chas. E. Smith's hands, to go to you in a general bundle, you will find what specimens I can spare - also the dwarf oak from the rocky islands of the Susquehanna, & a few other things.

In regard to the three species of Vitis, about which you make inquiry, I will give you what information I have. My only regret is that it is so scanty.

V. Labrusca is not common in Pa., but abundant in certain localities. The panicle is contracted, broad at the base, tapering to the end

occasionally with a vigorous side branch, 3-5 inches long. Fruit: berries crowded into very compact clusters, round, sometimes a little flattened at the pedicel, often larger than the largest Isabella grape, varying in color from light reddish-purple to almost black, skin very thick, the interior nearly filled with a tough pulp, taste decidedly acid with a rather pleasant musky flavor. This is the typical form. The vine does not climb high, but seems to prefer low bushes in thickets. I have a specimen in flower which I can send you, but no fruit & do not know where to get any more. Is it thick?

V. cestivalis. With the fruit of this species I am not well acquainted, in the ripe state.

V. cordifolia is very common with us & I collected panicles with ripe ft. from you, a day or two ago. As far as I have observed the leaves are glabrous except a downy tuft in the axils of the veins. Panicles are spreading, loose: berries black shining, small, acid, but not with us "fetidly aromatic", skin thin, pulp soft. Var. vulpina, on the rocky shores of the Susquehanna has smaller leaves, with larger teeth & denser clusters.

I have a very distinct recollection of a grape which abounds on the wooded hills & mountains of the Central part of the State. It prefers the forests & climbs to the tops of the highest trees. The branches are compact, the berries larger than in the ordinary form of V. cordifolia, black, covered with a thick bloom, skin thick, seeds large, pulp dark red, taste very sour but with a decided grapy flavor, ripening after frost. I remember it so well because when a boy I used to gather it for my mother to put up in molasses for making pies during the winter. If it be V. cordifolia

it is certainly a well-marked variety. I regret that I am not in that region now to get the fruit.

Female plants of *Vitis* I have never seen.

Since you have started me with yr. inquiries I will take particular pains hereafter to study the genus as I have opportunity & will report.

The rocky islands of the Susquehanna abound in grapes & I have seen many curious forms which have puzzled me. Probably they are hybrids.

Yr. very cordially,

Thos. C. Porter

P.S. – In *Pinus* (new Manual) you note leaves in No. 6 "occasionally in 3s" – so they are in *P. pungens*. I have found a Dozen on one small branch.

T. C. P.

Rec'd Dec 24
Ans Jan 11

Easton, Pa.,
Dec. 19, 1867

Dr. Geo. Engelmann,
St. Louis, Mo.,

Dear Sir,

Yr. favor of the 16th. reached me yesterday & I hasten to send by mail, as I had intended, fruit of Vitis cordifolia. It was collected since the parcel placed in Mr. Smith's hands was made up, & hence did not appear there. He had been engaged for some time in collecting the material of his bundle.

With the Vitis you will find Euphorbia commutata from the banks of the Susquehanna, Lancaster Co., Pa. I have it also from Franklin & Centre Co.s. This gives the species a wider range than is indicated in Gray's new Manual.

Also, Juncus oxytacus, Rostk.? Coast of N. J. I received it so named from Dr. Canby, the collector.

Also, Carex nigro-marginata, Schreb. This seems to me a good species & I think Dr. Gray will recognize it in his Addenda.

In regard to the habitat of *Vitis Labrusca*, I have seen it always on low grounds – often in dry places, but mostly on the borders of swamps.

Next year I hope to pay special attention to our grapes & will send you all the material I can collect. I am well aware that it is only by cooperation in this way that our "botanical difficulties" can be cleared up & am willing to do my part.

I have just discovered among my Lake Superior collections another *Avena*, gathered at Sault Ste. Marie, which is not in Gray's Manual & may be altogether new. This I expect to determine when I next go to Philadelphia.

In great haste, but very truly yrs.

Thos. C. Porter

Rec'd Jan 23

Ans Jan 27

Easton, Pa.,
Jan. 18, 1868

Dr. Geo. Engelmann,
St. Louis, Mo.,

Dear Sir,

I have received yr. favor of the 12th. Excuse me for sending you *Juncus dichotomus* labelled *J. debaeus*? Some men will not yield except to the highest authority, & even then, reluctantly, with a doubtful shake of the head. I have lately made a full & thorough revision of my *Juci* by the aid of the new light of the Manual & very much to my satisfaction. You have succeeded wonderfully in bringing order out of confusion.

I am glad to learn that you are about to resuscitate *Vitis riparia* – & any thing I can do in helping you to define our species clearly will be cheerfully done. Next summer I will collect largely with this end in view, & influence all my immediate associates to do the same.

Mr. Olney seems to have taken up the *Cyperaceae* again, particularly the genus *Carex*, with renewed zeal. I am in active correspondence with him & hope to be able to send you before a great while some other interesting species & varieties.

In a communication to Dr. Gray, some years back, respecting *Pinus pungens* I remarked that the leaves were occasionally in 3s. This is not noted in the New Manual. Enclosed you will find the proof from a branch just received from Port Clinton, Schuylkill Co. This branch is remarkable in having 10 successive whorls of cones – fr. 4 to 6 in each – & the gentleman who procured it said there were 3 or 4 more whorls below the point at which he cut it off. The tree is

more profusely cone-bearing than any of our pines & the old cones are singularly persistent. It begins to bear also when very young. I

I enclose also specimens of a plant apparently allied to Chara which I have no means of determining. If you can throw any light upon it, I will be greatly obliged. One of the specimens is in fruit & the spores have the spiral ridges of those of Chara, but, as I have no special acquaintance with these plants, I may be mistaken in the reference.

Would it be asking too much of you to look over a series of our Pennsylvania Cuscutae, to assure myself that they are correctly determined?

Yrs. very truly,
Thos. C. Porter

Recd Jan 6 1870
Ans March 20

Easton, Pa.,
Oct. 28, 1869

Dr. Geo. Engelmann,

Dear Sir,

Yr. favor of yesterday reached me to-day. I am glad to hear of yr. safe return fr. the Old World & regret that I cannot meet you in Philadelphia. If I had known of yr. coming, I wd. have made arrangements to do so, in case I had failed to persuade you to pay me a visit. Easton cd. have been taken in your route fr. N. York to Philadelphia, & we would have been happy to entertain you & Mrs. Engelmann. I hope it may not be too late yet, & that it will not derange yr. plans too much to spend a day or two with me next week.

During yr. absence I have been devoting my time to the Flora of Penn. with the view of publishing a work, which has been authorized by the Legislature. I have had two active, young botanists in the field all summer, & blooming under my direction. Yr. wants have been kept in mind, but I am sorry to say that I have not a great deal to report.

Of Vitis I have a few specimens of V. Labrusca, V. riparia & V. æstivalis & V. cordifolia.

Of Juncus I have a goodly quantity of J. alpinus,

var. insignis, J. Canadensis, var. brachycephalus & J. articulatus? (a curious form) from Presque Isle, Erie. I directed my collector to secure everything there in the shape of Juncus which he c.d lay his hands on & in the mass which he brought away you may find something else. On the Pocono Mtn., Monroe Co., I gathered in Sept. J. Canadensis var. coarctatus. It is very abundant there. I have f.d it also in this neighborhood – as well as the var. Sub brevicaudatus. The tall swamp form of J. tenuis occurs here & the var. secundus on rocks. Fr. Montauk Pt., L.I., I have J. dichotomus.

On the 25th. of Sept. I visited Lake Hopatcong, Morris Co., N.J., on the summit of the dividing ridge between the Delaware & the Atlantic, 800 ft. above sea level. The Lake is 9 miles long & 2 in the widest part. The water was remarkably low & on the damp sandy margin of one island (Halsey Island), about 1 mile in circumference, I found growing in great abundance Gratiola aurea, Elatine Americana, Isoetes echinospora var Braunii & Juncus pelocarpus. The latter was exceedingly abundant & in the finest condition & I laid in a large stock. I can spare you 100 first-rate specimens, if you wish them. It had complete possession of the strip of sand for a large portion of the circuit, no other plant growing with it. In ranging along my eye fell upon a close mat of little stuff which I at once recognized as yr. var. subtilis, wh. Mr C. E. Smith collected last year on the shore of Moosehead Lake, Maine, in ft. & sent you. I gathered some & hunted on in hope of discovering it in ft., but although I saw several other broad patches I c.d see no sign of what I sought, nor c.d I detect any forms intermediate connecting it with

the typical form. Next year I must search for it again. Enclosed you will find a specimen. Hoping to get it in fruit I passed on & brought away but little of it. There Juncci & other plants of interest I must box up when I have leisure & send you by Express, if you cannot find time to come & take them with you.

About Bethlehem & along the Lehigh river I have as yet been able to discover no trace of an Isoetes. — I. echinospora, Dur. Braunii I have from a number of localities in Pa. — In Aug. '68 I collected in an exsiccated pond in Huntingdon Co. Pa., at the foot of the Alleghanies, about 1300 ft. above sea-level, enormous specimens of I. Engelmannii, var. ovalida, which I know you will be pleased to see both on account of their size & the locality in which they were found.

In addition to the plants above named, I can send you specimens of the following fr. Pa., if desired:

Thalictrum pubescens, L.
  var. confertum, C. & A.
Delphinium exaltatum, L
Cimicifuga Americana, Mx.
Silene nivea, DC.
Sida Napaea, Cav.
Tilia heterophylla, Vent.
Sedum Rhodiola, DC.
Angelica Curtisii, Buckl.
Sium Cauvinii, Durand.
Solidago stricta Ait.
  " Virga-aurea, L.
    var. humilis, Gr.
Coreopsis discoidea, Torr.
Gaylussacia brachycera, Gr.
Ilex mollis, Gr.
  " monticola, Gr.
Polemonium coeruleum, L. N.J. (indig.)
Phlox Carolina, L.
Sparganium minimum, Bach. Fries
Potamogeton Robbinsii, Oakes in fl.
Cyperus Lancastriensis
Carex grypandra, Schw.
  " glaucodea, Tuck.
  " aestivalis, Mk. & C.
  " nigro-marginata, Schw.
Calamagrostis Porteri, Gr.
Triticum repens, Herman.
Asplenium fissum, Nutt.
  " montanum, Willd.
Botrychium Lanceolatum, Angstroem.
* also. (neglectum, A. Braun)
    var. neglectum, Blytt & Lin
Mentha sativa, L. introduced
  " Pulegium, L. "
  " rotundifolia, L "
Salvia Sclarea, L. "
Scirpus pauciflorus, Light f. Erie
* B. matricariaefolium, A. Br. var. Subintegrum Milde

One of Sullivant's long-lost *Fedias*, *F. patellaria*, has turned up in Western Pa., but unfortunately I have no specimens to spare. Next summer I expect to get a good supply.

Before long I intend to publish a new *Carex*, admitted by Olney – *C. Smithii*, discovered by H. H. Smith in Delaware Co., Pa. It belongs to the group of *virescens* & *hirsuta*. P.S. – It will appear in the April No. of Dillwyn's Journal

I have also a *Berardia* from Presque Isle, which, if not a new species, is a remarkably var. of *purpurea*. Its habit is strict & the flowers are rose-purple like those of *P. tenuifolia* & ½ in. in length –

also, a var. of *Trillium nivale*, Riddell. – 4'-8' high, with the peduncles strongly recurved. Fr. Western Pa.

These & other new things will be brought out as soon as I have time to work them up.

Yrs. truly,

Thos. C. Porter.

Jan. 1, 1870 – The above letter, directed to No. 35 Continental Hotel, came back to me to-day from the Dead Letter Office at Washington, & I regret exceedingly that those who opened it suffered the fine specimen it contained of the little Juncus to drop out. I replace it by all I have, but this fragment does not show its creeping habit.

Could you recommend to me a German botanist who makes good specimens & would be willing to exchange largely European species for ours? I'd like to find a reliable man. Those whom I have tried, send me old stuff – refuse specimens. I have a grand stock of duplicates & am ready to make such returns as might to please the most fastidious. Yrs. very truly, T. C. P.

Rec'd on 2d
ans — 4
— Feb. 10

Easton, Pa.,
Jan. 18, 1871

Dr. Geo. Engelmann,
St. Louis, Mo.,

Dear Sir,

Sometime ago I sent to our freind Chas. E. Smith of Phila. a bundle of Juncci & other things to be included in a package he was about making up for you, but as I have received no letter acknowledging it's arrival in St. Louis, I suspect it is yet in his hands.

To-day I send you by mail, at the suggestion of Drs. Torrey & Gray, a curious grass-like Juncaceous plant, collected by Dr. F. V. Hayden, Oct. 1870, on

Henry's Fork of Green River, Wyoming Ter.,
to which you will please append a label.
It is a puzzle to them as well as to me.
Unfortunately the fruit is overripe. What
can it be?

I am now working up a catalogue of
the plants collected by Hayden last Summer
in Wyoming Ter., to be published in his
Report now going through the press.

Though rather late to wish you a happy
New Year, I can wish you a successful
one botanically — & plenty of Vetch!

Yrs. very truly,
Thos. C. Porter

Rec'd, Feb. 16th
Ans. — 27

Easton, Pa.,
Feb. 13, 1871

Dr. Geo. Engelmann,

Dear Sir,

I have yr. note of Jan. 29th. & hope that by this time the vagrant parcel containing the Juncaceens puzzle has reached you. It was certainly put into the post-office at this place & paid for, but to make the matter sure, I shall send it a second time.

My bundle of Juncii for you has been in Mr. Smith's hands a long while. I saw it at his house before the holidays & he then told me he intended to forward it soon with some things of his own, but his illness I fear has rendered him somewhat forgetful. A note from you, inquiring about Juncus in general, without any reference to me or my bundle, wd. I think immediately start it on its way to St. Louis. I am anxious yr. sh. see its contents, although you will scarcely

discover anything new. The quantity & character of the specimens of *J. pelocarpus* will, I am sure, give you pleasure.

I am doubtful if the bundle contains a specimen of a *Linum* fr. Presque Isle, Erie, Pa. If not, I must send it to you by mail. It is ypr. *L. Virginianum*, L., var. *angustifolium* (Pl. Wright. 1, p. 26.), Arkansas. As the other var. *oppositifolium*, which grows also in Pa., has been promoted to specific rank, will this one be entitled to the same distinction?

Among Hayden's plants is a new *Linum* from the Uintah Mtns. Watson had collected it before, & altho' Hayden's Report will appear before Clarence King's, I have yielded the name, & he calls it *L. Kingii*. Hayden's plant is, however, a very marked var., which I have named *sedoides*, from its Sedum-like aspect.

I handed over the newspaper-clipping to Prof. Coffin, for which he returns thanks.

Yrs. very truly,

Thos. C. Porter

Recd March 7th
Ans — 10

Easton, Pa.,
March 3, 1871

Dr. Geo. Engelmann,

Dear Sir,

I recd. (yesterday) yr. favor of Feb. 27th., as also yrs. of Feb. 10th. which relieved me of the necessity of sending another specimen of the supposed "Juncaceous plant". I have examined it carefully since, & believe yr. determination is correct. For the "Juncaceous" idea, our good friend Dr. Torrey is responsible. He thought he saw a separation of the fruit into 3 divisions at the top, & conjectured, nothwithstanding its evident grass-like appearance, that it might be one of those anomalous 2 sepalled Juncei, & advised me to send it to you, which I did without looking at it further.

In regard to the Presque Isle "J. acuminatus" = J. articulatus with large heads, there must be some mistake. I knew I intended to send it as J. articulatus & must have got the wrong label, or written inadvertently the one name for the other. Of the sterile form I could make nothing & thank you for putting it in its right place.

By mail to-day I send you specimens of the

two Lina & hope they will not fail to reach you. The labels are enclosed.

As yr. variety oppositifolium, of Linum Virginianum, has been promoted to specific rank, might not the other, angustifolium, furnish characters enough to entitle it to the same distinction? It is a lower plant than the typical L. Virginianum, as it occurs with us, stouter, erect, with shorter & stiffer branches, leaves narrower & flowers & fruit larger, & grows too in open grounds & not in the woods.

Since I wrote you, I have learned that my new Linum of the Uintah Mtns. was collected by Watson in the same region, during Capt. King's Expedition, in 1869, & that he had already named it, L. Kingii. As my plant is much smaller & a very well marked variety, I shall publish it as L. Kingii, Watson mss., var. sedoides.

I am glad to hear that you are working at the Yuccas, but sorry they have thrown yr. old favorites into the back-ground, although, as you say, it can only be "for a while". The coming summer I shall make an effort to secure good specimens of all our species of Vitis in flower & fruit.

Yrs. very truly,

Thos. C. Porter

Rec^d Jan 2^d 1872
Ans — 4

Easton, Pa.,
Dec. 29, 1871.

Dr. Geo. Engelmann,
St. Louis, Mo.,

Dear Sir,

I take the liberty, without previous request, of sending you by Express to-day, freight pre-paid, the few *Cacti* collected by Dr. Hayden in his last Summer's Expedition to Yellowstone Lake, & shall take it as a great favor, if you will name them for me at your earliest ~~I add also~~ convenience. I add also the only two *Juncci* about which I have any doubt. The Dr's plant-collections have been placed in my hands to work up & he requires the catalogue for his next annual report to be in the printer's hands by Jan. 25th., 1872.

As the discovery of the little *Arcenthobium* in N. New York has given you a new interest in the genus, I enclose a specimen of *A. Oxycedri*, Bieb. from Yellowstone Lake.

On an expedition last Summer to Moosehead Lake, N. Maine, in company with my friend, Mr. Chas. E. Smith, I had the good fortune to discover two new Phaenogams — one, a *Spartina*, *S. aristata*, mihi (a specimen of which I shall

send you shortly with some other things) & the other, a Carex, allied to C. crinita, which Olney has named C. Porteri & will no doubt send you. Mr Smith devoted his time to trout-fishing, & he is a famous good angler, whilst I gave my whole attention to the plants of the region. We did not reach the locality of Michaux's Juncus subtilis, & the only other species of the genus noted were J. filiformis, in great abundance, & J. Canadensis, v. coarctatus, Eng.

This year we have found in Eastern Penn. Sullivant's Fedia patellaria, growing properly with F. radiata, & a careful examination of both has led me to the conviction that F. patellaria & F. umbilicata are only forms of F. radiata with abnormal fruits. I have sent specimens & drawings to Dr. Gray, & at his suggestion intend preparing an article on the subject with wood-cut illustrations for the American Naturalist.

With kind regards & the greetings of the season, I remain

Yrs. truly,

Thos. C. Porter

P.S. – Not knowing in what street you reside, nor the No. of your house, I have simply directed the little box that goes by Express today

Dr. Geo. Engelmann, St. Louis, Mo. It will probably reach you without any trouble, but sh.d it not arrive in due season, it may be found by inquiring at the Express Office.

T. C. P.

P.S. – The fungi above referred to I forgot to include in the bundle. Another examination has satisfied me in regard to one – of the other I put in a specimen here.

J. Parlow.

Rec^d Jan 13th
ans May 14

Easton, Pa.,
Jan. 9, 1872

My dear Dr. Engelmann,

I received to-day your favor of the 4th. & thank you for yr. kindness in naming Hayden's Cacti so promptly, & also for the information in regard to the Arceuthobium. Hooker was my authority for calling it A. Oxycedri, but it shall go into my catalogue as A. Americanum, Nutt. My object in sending it to you was to have yr. decision, as I know you have been giving much attention of late to these curious parasites.

All the specimens sent I intended you should keep & hope you will put those of the Cacti that show any signs of vitality to growing as speedily as possible. I do that same thing & have Lewisia rediviva in a thriving condition & a little Sedum which I take to be Watson's new S. debile.

By the way I noticed some time back certain remarks in the Bulletin of the Torrey Club in reference to our eastern Opuntiae, by which I am

led to believe that our species found on rocks along the Susquehanna & Delaware rivers & in the sands of New Jersey is not true O. vulgaris but your O. Rafinesquii. When I make up a parcel for you, which I hope to do soon, I shall enclose specimens of our plant. I have it growing in my yard from the rocks of the Delaware & dried specimens from the Susquehanna.

I did nothing last season in the way of studying & collecting our species of Vitis, but shall use every opportunity next summer to get all I can for you.

With sincere regard,

Yrs. truly,

Thos. C. Porter

Ans Nov 4th
Ans Dec 21st

Easton, Pa.,
Oct. 30, 1872

Dr. Geo. Engelmann,
St. Louis, Mo.,

Dear Sir,

I received your favor of the 18th. – & with you regret that we failed to meet during my recent visit to your city. The fault lay with the clerks of the hotel. Immediately after our arrival I enquired if you had called, but received an answer in the negative. When our party had dined a drive to Shaw's Garden was proposed & all went except myself. Much as I should have enjoyed it, I preferred making an effort to see you & accordingly found my way to your residence in the Street cars. You had gone out about a quarter of an hour before & Mrs. Engelmann directed me to the large building occupied by the public schools, where she thought you intended meeting with some committee. I found the place & sought you in nearly every room but in vain, then returned to the hotel where I remained during the rest of the afternoon & evening in the hope that you might find it convenient to call again, except for a few minutes consumed in a visit to your office. Early in the morning

we departed for Colorado, where we spent three delightful weeks. Our homeward route was from Denver to Cheyenne & thence eastward to Omaha – Chicago & Pittsburg, so that we did not touch St. Louis again.

I botanized some days around Denver. From thence we travelled South on the D. & R. Grande R. R., 76 miles to Colorado Springs at the base of Pike's Peak. A sojourn here of 6 days & trips to the Chiaun Cañon – the Garden of the Gods Glen Eyrie & Monument Park gave me favorable opportunities for collecting many good things. An outfit was at length provided – two carriages, an ambulance & three wagons to convey the tents & provisions – & 8 days were devoted to a tour of 300 miles up the Ute Pass across the South Park & its western divide to the Arkansas at the base of the Snowy Range, up that river to Granite & the Twin Lakes, back again to the South Park & eastward through Cañon City to Pueblo, where we took rail for Denver. Another short trip of 2 days to Idaho Springs, 35 miles distant among the Mountains, occupied the remainder of our time.

Travelling with companions who could not fully sympathize with the enthusiasm of a botanist, ~~may~~ I felt myself more or less under restraint & did not accomplish as much as I would have done, had I been wholly free or associated with others who felt the same interest in the flora of that wonderful region. Still I have no reason to complain. I made the best use of my time in getting all I could & brought away specimens of about 330 species all in fine condition. Of course little that is wholly new

could be discovered in a field so well gleaned by Parry, Hall, Canby, Buckham & others – not, at least, in a rapid journey over ~~a well~~ the same roads. The only new thing I have is a Clematis, collected, 35 miles W. of Cañon City, at a remarkable Soda Spring which we visited in a valley 6 or 7 miles from the main road. I have named it C. Scottiana from the chief of our party, Hon. John Scott, U. S. Senator from Pa., who is a lover of plants & has some knowledge of botany. It was his discovery & I shall send you one of the few specimens obtained. In the same locality I secured also Lencampy's Newberryi, Gray, a fine composita found by Newberry in 1869 on the Arkansas. Dr. Gray bagged from me the last specimen I had to spare for Kew, but I have made arrangements with a botanist at Cañon City to procure me a good supply next year. Other plants of interest collected are: Ceanothus Fendleri, Gr. Heuchera Hallii, Gr. – H. bracteata, Gray – Aplopappus Parryi, Gr. – Helianthella Parryi, Gr. Phacelia Neo-Mexicana, Thurber – Salix desertorum, Anderson – Cheilanthes Fendleri – Notochlaena Fendleri, Kunze.

Our journey was too rapid, & I was too much taken up with the ~~with~~ hosts of new things which continually met my eye, to allow me to devote close attention to the Coniferae. The prevailing pine on the slopes of the mountains, forming extensive forests but not dense is P. ponderosa – a stately & beautiful tree. At lower elevations along the Arkansas & the pinon – P. edulis – abounds. It is a low tree, seldom ~~ff~~ exceeding 10 or 12 ft in height, going out into numerous large branches at the ground or 2 to 3 ft. above & forming a ~~massive~~ dense round mass. In that region many have died for some reason, but on account of the abundance of resin they contain & the dryness of the atmosphere perhaps they do not decay, but stand bare of leaves with all their branches & twigs intact like skeletons. We

found by experience that a dead pinon is the very best fuel in the world for a camp-fire. In the ravines & cañons I gathered twigs & cones of *Abies grandis*, *A. Douglasii* & *A. Menziesii*; but did not chance upon *A. Engelmannii*, altho' I heard Canby or Meehan had discovered one tree in the neighborhood of Pike's Peak. One tree each of *Pinus flexilis* & *P. contorta* were all I encountered. On a branch of the latter, 4 ft. long, I counted 113 cones old & new — & saw cones even on the body of the trees & the larger branches. In this respect it is the most remarkable pine that ever fell under my eye. I scanned it closely in hope of detecting *Arceuthobium Americanum* somewhere on the bark but was disappointed. I cannot think, as has been conjectured, that it is identical with our Eastern *P. rigida* — nor do I believe that Dr. Gray can metamorphose the Rocky Mtn. *Abies* into *A. balsamea* & *A. alba*. He must have been unconsciously influenced by the train of thought (fresh in his mind during his visit to Colorado) which runs through his address to the Scientific Association. A desire to trace the descent of the modern Sequoias from their ancient fossil brethren may induce him to make light of differences which constitute distinctive characters to minds unbiassed by a theory. — As to *Abies Fraseri*, I mean to ferret out Pursh's Penna. locality next summer & procure specimens for you.

I saw few Cacti in Colorado. *Opuntia Missouriensis* & *Mammillaria vivipara* were all I brought away. Around Pueblo a branching species 2 to 4 ft. high is very common. They call it the "Stag-horn Cactus" & canes are made of the branches.

Dr. Parry I met at Denver on our return. He was waiting for the arrival of Dr. & Mrs. Gray to guide them in their ascent of Gray's Peak. He wished me to stay & make one of the party but alas! I could not.

Mr. Lesquereux & Son. I met a number of times at Denver & Colorado Springs.

I requested Dr. Hayden particularly to mail you a copy of his last report. I received but one & at Dr. Gray's request made it over to him. Through Senator Scott I expect to become before long a dozen copies & shall mail you one — & when I get leisure shall send you a parcel of plants — Indian &c. &c.

Yours very truly Thos. C. Porter

Rec Dec 16th
A — 21

Porter

Easton, Pa.,
Dec. 12, 1872

Dr. George Engelmann
St. Louis, Mo.,

Dear Sir,

I send you by Express to-day (freight paid) a package of plants, in which I hope you may find a few things of interest.

For any help you may be able to give me in the determination of the doubtful species, or in the correction of errors, I shall be duly thankful.

Yrs. very truly,
Thos. C. Porter

P.S. – I have not yet received the copy of Hayden's Report, for 1871, but have requested him again to send you one.

Rec'd Oct 19
Ans same day

Easton, Pa.,
Oct. 15, 1874

Dr. George Engelmann,

Dear Sir,

A few days ago I rec'd. yr. postal-card & thank you for adding two new plants to my Colorado list. This morning came by mail a specimen of an Abies, with a cone, from Mr. Brandegee, collected by him on the 5th. inst in Oak Creek Canon, east of Canon City & labelled Abies concolor, Lindl. Yr. description of that species in Dc.'s Prod. gives this character: "bractea late ovali-orbiculari, superne dentato-incisa, haud truncata nec mucronata"; & Parlatore adds: "bracteae lepidiis tertio breviores, majores quam in Pinu grandi, haud emarginatae nec ~~mucronatae~~ mucronatae." Enclosed are some of the cone-scales of Brandegee's specimen with the bracts attached. I gathered the same thing in Chiann Cañon near Colorado Springs & referred the tree to A. grandis. Am I in error? The scales are longer & the mucro shorter than usual in A. grandis, but do not accord with the character above given. Please resolve my doubts, since I have no specimen or figure of A. concolor with which to compare.

Mr. Brandegee has sent me a fine collection made last summer chiefly in the Sangre de Cristo Range, at which I am now working. Most of them have passed under yr. eye & yr. remarks upon them have been reported by Mr. D. The

alpine Oxytropis is, I believe, new. Mr Coulter collected it last year in flower on Mt. Lincoln. The fine fruit now supplied by Mr. B. serves to determine it. Nearly allied to O. podocarpa, Gray & it is clearly distinguished by having the pod very short-stipitate or sessile & the ventral suture enlarged within but not intruded. I have named it O. coloradensis. — The supposed Crepis is a very singular plant. The florets appear almost labiate. The limb of the ligule is very short (or upper lip?) at best & the lower still shorter — the style is exserted & the stamineal ring included in the tube below. The plant may perhaps deserve rank as a genus or sub-genus. It differs from Crepis in its long, slender, branched rootstocks & entire leaves. In its achenia, pappus & involucre it agrees. Coulter collected an imperfect specimen of this also last year on Mt. Lincoln. The plant is evidently new & I hope soon to be able to determine its place. —

I am glad that you were able to spend two months in the Rocky Mtns of Colorado, & if your experience was like mine, it was a season of uninterrupted enjoyment.

Yrs. very truly,
Thos. C. Porter

Rec'd - March 13th
Ans April 11

Easton, Pa.,
March 9, 1875

My dear Dr. Engelmann,

I rec'd yr. favor of Feb. 7th. & the cones of Abies concolor, the sprig of Amblogyna Torreyi & list of new plants for Colorado, for all which please accept my best thanks. The severity of this arctic winter, pressure of college-duties & sickness in my family have prevented an earlier acknowledgement.

I have no doubt you are right in regard to Abies concolor. Yr. specimens show variations in the cones, & of one, the bracts of the scales are sufficiently near Parlatore's description in shape & size to show the transition.

For the last three years my summers have been spent at a distance from home & hence I have paid little attention to local botany. In this way my purpose to aid you by collecting forms of Vitis has been frustrated. During the coming season I expect to do a great deal of exploration in our own state & shall give special heed to all the grapes that fall in my way.

As to Carya sulcata, the reason why Nuttall makes no reference to it in his Continuation of Michaux's Sylva is, perhaps, because Michaux had already described & figured it in the First Part, p. 1, p. 83, under the name of Juglans laciniosa.

I have never met with the tree myself, but specimens of leaves, flowers & nuts have been sent me under that name from several localities in Penna. Besides the shape of the nut it seems to be distinguished from C. alba by the number of its leaflets, 7–9, & the thickness of the shell of the nut as well as its color, & from C. tomentosa by its shaggy bark like that of C. alba. Not having seen the tree I have to rely on the statement of others for this character. I send you by mail a few of the nuts without the husk – & one also in the husk (of medium size & a good deal shrunken in drying) gathered by me from a tree on the Juniata River, 80 ft high. The leaves of the tree are very large & the leaflets broadly obovate & densely tomentose beneath. Of the bark I have no distinct recollection, but the impression is that it is not shaggy nor yet like that of the ordinary C. tomentosa. On the whole I am inclined from the magnitude of the nut & its shape to think that it must be, Nuttall's var. β. maxima – Gen. 2, p. 220. If I ever find an opportunity I shall visit that tree again & get all the facts concerning it I can & all the specimens I need. It is the most remarkable hickory that has ever fallen under my observation.

Yr. very truly,
Thos. C. Porter

Rec'd July 13th

Easton, Pa.,
July 10, 1876

Dear Dr. Engelmann,

I have yr. postal-card of June 30 & the two papers on Agave & The Oaks of the U. S. for which please accept my thanks. As regards Quercus tinctoria & Q. coccinea, I still believe them distinct species. Each holds its character well & in riding through our forests the practised eye can distinguish them with great ease. In travelling with a botanical friend some year ago through a well-wooded region we amused ourselves, if we did not do more, in singling out & naming the different oaks & uniformly concurred in our judgments as to the 2 species. The differences in the bark, the leaves, size of the trees & general habit of growth are striking. It will give me great pleasure to observe the buds & vernation of each next spring & to collect also specimens in flower & send yr. the results. ~~The~~ Q. ambigua, Ell. I met with at one point near Carp River on Lake Superior in 1865 & gathered leaves & acorns, but unfortunately lost them somehow on my tramp back to Marquette. — I entirely agree with you in your view that Q. heterophylla is neither a form of Q. aquatica, as De Candolle surmised & as

Mr. Meehan has lately advocated, nor a hybrid. In N. J., where within the last 2 or 3 years a number of trees have been discovered at different points, no typical *aquatica* is found. One of these at Griffith's Swamp, 6 miles from Philadelphia I visited. Another has recently been reported by Dr. Leidy 10 miles further North & from it he obtained acorns which I have seen. – Touching our Oaks, one thing has always spited me, & that is, that I did not anticipate Dr. Curtis in the discovery of *Quercus Georgiana*. In 1846 when I gathered *Rudbeckia Porteri* on Stone Mountain, Ga., I saw this dwarf species growing in great abundance & covered with acorns – & passed it by! –

Carya microcarpa I shall look up & give all the help & material at my command. I have specimens in flower & fruit collected in this neighborhood & so named by my friend Dr. Green. –

Abies Fraseri from Penn. I do not possess. I have tried to discover the stations cited by Pursh in vain & wherever in the mountains I have met with what might be this fir, on examination it has always turned out to be *A. balsamea*. I have, however, good specimens from the Mtns. of N. Car. & am rather inclined to doubt its existence

in Penn. If Punk had reported it from the Central Chain of the Alleghanies the probabilities wd. be in its favor, but his station must be somewhere east of the Susquehanna. "Broad Mountain" is the name of the Mtn. in Schuylkill Co., where grows *Juncus Smithii* & I have searched & inquired in that region for *A. Fraseri* but without success.

Yrs very truly,
Thos. C. Porter

Recd Jan 1st 1877
Ans July 21

Easton, Pa., Dec. 28, '76.

My dear Dr. Engelmann,

Your favor of the 25th. was recd. to-day, & I much regret having failed to meet you during yr. late visit to the East. Had you travelled hither, 50 miles due north from Phila, you wd. have been cordially welcomed, & a day or two might have been pleasantly spent amongst the oaks on our hills. Of yr. journey southward some little information reached me, but I did not know you had gone as far as Stone Mountain, Ga. It is gratifying to learn that the Gymnolomia still flourishes on its rugged top & flanks, where I gathered it 30 years ago. Its root, when fresh, emits an agreeable balsamic odor that still lives in my memory. — Abies Fraseri has not yet been rediscovered in Penn. & I have not been able to ascertain when Purshs "Broad Mtn." stands, since the name is so common. Mr. Le Roy of N. Y. has supplied me with good specimens from Black Mtn., N.C.

I send you by mail to-day a copy of a botanical article, published two years ago, which, if correction were possible, would be changed in a number of points. It might have been expanded to advantage, but the publishers of the Atlas would give no more space. I send also a small package of plants, the enclosed labels for which you can readily place. Amongst them is a Euphorbia, one of the fruits of my campaign in Georgia in 1846, & now referred to you for determination. It is the only specimen left. Another species

from Kern Co., California I have named Q. albomarginata, Torr. Am I right? — You will note also in the package specimens of Quercus Castanea, Nutt. from this neighborhood. Its true home may be, as you suppose, further west. Although I have it from 5 or 6 widely distant stations in Penn., it is one of our least common species. Q. Prinus (monticola) affects elevated ridges & mountains & is very abundant, whilst Q. castanea occurs only here & there with us along river-banks & always on limestone-rock. — Your request in regard to Q. coccinea & tinctoria will receive careful attention. I shall make it a point to observe them closely & study the differences. The bark of tinctoria is always so much darker than that of the other that by a little practice you can readily distinguish them by this character alone. — In regard to Carya microcarpa, I can give you no light. All that I have (so named by others) are I fear only, like Carolinæ, C. porcina.

Yrs. very truly

Thos. C. Porter

Rec Aug 4th
Ans 10

Easton, Pa.,
July 31, 1877.

My dear Dr. Engelmann,

I received your favor of the 22d a few days ago & later the proofs of Gray's "Synopsis" with which I am indeed greatly pleased. As you request, I shall return them to you very soon.

In your specimens of Gilia aggregata, Spreng do you find the stamens equally inserted? In all mine, from various localities, they are not. Where included they are often very unequally distributed along the tube, & even in cases where they are crowded toward the throat & exserted, there are some flowers at least in which they do not start from the same horizontal line. For this reason, in my report on the Polemoniaceæ for Rothrock's book, I have transferred the species to Collomia. A series of specimens sent to Dr. Gray since the Order was in printer's hands for the Synopsis bothered him & as he had no time for revision he told me to use my own judgment.

With all my good intentions in regard to Juncus coccineus & J. tinctorius I

did forget to look after the buds last Spring. Unfortunately good specimens of neither are to be found in this immediate neighborhood. The oaks of our College-hill are Q. Prinus & var. acuminata, Q. alba, Q. rubra & one Q. obtusiloba. The last is scattered over the State, but is scarce & rare, occurring only at isolated stations - so too Q. nigra, which is confined to the S. Eastern part of the State & does not extend beyond the South Mountain. Q. macrocarpa is also rare East of the Alleghany Mtn. I know a few trees on the Upper Juniata - on the Conococheague, a tributary of the Potomac & on the Buskkill, a tributary of the Delaware. Q. imbricaria is not uncommon West of the Alleghany Mtn. but is very seldom seen East of it. I have met with one tree in Bedford Co. - one in Huntingdon Co. & a group of 3 or 4 in Lehigh Co., near Allentown. Q. Phellos & Q. falcata are known only in the S. Eastern Cos. of Delaware, Chester & Philadelphia. Our Pennsylvania oaks seem to behave themselves with great propriety for in all my ranging through ~~the~~ woods I have yet to encounter a clear case of hybridity. Allowable variations from the specific type are common enough in some species, as, for instance, Q. alba. In a few days,

as soon as our railroad troubles are settled so as to permit safe travelling, I intend to visit the Upper Juniata to do some exploration along the flanks of the Alleghanies with my friend J. M. Lowrie, who is a close student & cultivator of our forest-trees, & I can promise that nothing of the Oak-kind or pertaining to them shall be overlooked.

You certainly deserve great credit for not leaving your work to accompany Hayden's distinguished party to the Rocky Mountains. It was a rare opportunity for making an enjoyable trip to ~~the~~ region which is so full of attractions for a botanist.

Yours very truly,

Thos. C. Porter

Rec Apr 22

Easton, Pa.,
April 18, 1882.

My dear Dr. Engelmann,

I owe you many thanks for a copy of your admirable paper on our N. Am. Isoëtes, which I have read with great interest. I send you by mail to-day specimens of I. Engelmanni from a new station in Penn., the only other known to me being the pond at the Water Gap of the Delaware where it was discovered by Mr Knipe & where I saw it growing myself. These came from the muddy border of a little stream in a mountain-swamp near Cornwall, Lebanon Co. In this swamp I found to my surprise Magnolia glauca in considerable abundance, just as in the Smithville Swamp, Lancaster Co., where I first collected I. Engelmanni, var. valida, & these are the only two stations of this Magnolia known to me in the State. The var. valida of Huntingdon Co. grew in the soft clay-mud from the washings of iron-ore. I have looked for it since, but it seems to have disappeared.

A form of Quercus Prinus, var. acuminata occurs on the limestone bluffs of N. J. about 2 miles below Easton, which I shall send you when I get better material. It failed to produce acorns the last season on account of the severe drought. The leaves are narrower than usual & gradually taper to the base.

If my memory is not at fault, I have read somewhere

a notice that you had delivered an address upon the scientific labors of Linnæus. If so, ~~it~~ it has been published, you would do me favor by sending me a copy. I have a Memoir of the illustrious Swede in MSS. which I may put in print before long.

With kind regards, I remain

Yrs. cordially,

Thos. C. Porter